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FARM INDEX

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ECONOMIC RESEARCH SERVICE • U. S. DEPARTMENT OF AGRICULTURE • JUNE 1966



mid-continental playground

Midwestern vacationists...and their dollars...are heading toward the Ozarks



economic trends

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1965		1966		
			YEAR	APRIL	FEBRUARY	MARCH	APRIL
Prices:							
Prices received by farmers	1910-14=100	242	248	243	272	271	266
Crops	1910-14=100	223	232	243	236	233	238
Livestock and products	1910-14=100	258	261	244	302	303	291
Prices paid, interest, taxes and wage rates	1910-14=100	293	321	320	329	331	333
Family living items	1910-14=100	286	306	303	312	314	314
Production items	1910-14=100	262	276	276	282	284	283
Parity ratio		83	77	76	83	82	80
Wholesale prices, all commodities	1957-59=100	—	102.5	101.7	105.4	105.4	105.5
Commodities other than farm and food	1957-59=100	—	102.5	102.1	103.8	104.0	104.3
Farm products	1957-59=100	—	98.4	97.6	107.4	106.8	106.4
Food, processed	1957-59=100	—	105.1	102.3	111.8	111.5	110.5
Consumer price index, all items	1957-59=100	—	109.9	109.3	111.6	112.0	—
Food	1957-59=100	—	108.8	107.3	113.1	113.9	—
Farm Food Market Basket: ¹							
Retail cost	Dollars	983	1,042	1,022	1,095	1,103	—
Farm value	Dollars	388	409	396	458	452	—
Farm-retail spread	Dollars	595	633	626	637	651	—
Farmers' share of retail cost	Per cent	39	39	39	42	41	—
Farm Income:							
Volume of farm marketings	1957-59=100	—	118	86	90	93	88
Cash receipts from farm marketings	Million dollars	32,247	38,930	2,466	2,754	2,965	2,813
Crops	Million dollars	13,766	17,144	804	884	792	822
Livestock and products	Million dollars	18,481	21,786	1,662	1,870	2,173	1,990
Realized gross income ²	Billion dollars	—	44.4	—	—	47.0	—
Farm production expenses ²	Billion dollars	—	30.3	—	—	31.7	—
Realized net income ²	Billion dollars	—	14.1	—	—	15.3	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	6,229 ³	554	519	625	—
Agricultural imports	Million dollars	3,977	4,088 ³	368	371	431	—
Land Values:							
Average value per acre	1957-59=100	—	139	139 ⁴	—	157	—
Total value of farm real estate	Billion dollars	—	159.4	159.4 ⁴	—	171.1	—
Gross National Product ²							
Consumption ²	Billion dollars	457.3	676.3	657.6	—	713.9	—
Investment ²	Billion dollars	294.2	428.7	416.9	—	451.8	—
Government expenditures ²	Billion dollars	68.0	105.7	103.4	—	111.7	—
Net exports ²	Billion dollars	92.4	134.8	131.3	—	144.0	—
	Billion dollars	2.7	7.1	6.0	—	6.4	—
Income and Spending: ⁶							
Personal income, annual rate	Billion dollars	365.3	530.7	520.5	557.4	561.4	563.1
Total retail sales, monthly rate	Million dollars	17,098	23,662	22,849	25,281	25,597	25,227
Retail sales of food group, monthly rate	Million dollars	4,160	5,577	5,436	5,879	5,935	—
Employment and Wages: ⁶							
Total civilian employment	Millions	64.9	72.2	71.7	73.5	73.4	73.8
Agricultural	Millions	6.0	4.6	4.8	4.4	4.4	4.5
Rate of unemployment	Per cent	5.5	4.6	4.8	3.7	3.8	3.7
Workweek in manufacturing	Hours	39.8	41.2	41.0	41.6	41.5	41.5
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	2.61	2.60	2.67	2.68	2.69
Industrial Production ⁶							
	1957-59=100	—	143	141	152	153	153
Manufacturers' Shipments and Inventories: ⁶							
Total shipments, monthly rate	Million dollars	28,745	40,279	40,044	42,702	43,972	—
Total inventories, book value end of month	Million dollars	51,549	68,015	63,999	69,040	69,679	—
Total new orders, monthly rate	Million dollars	28,365	41,023	41,120	44,129	45,495	—

Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1960-61—estimated monthly. ² Annual rates seasonally adjusted first quarter. ³ Preliminary. ⁴ As of March 1. ⁶ Seasonally adjusted.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

THE AGRICULTURAL OUTLOOK

U. S. **Wheat** disappearance for the first 9 months of the current marketing year reached a record 1,245 million bushels. This points to a record-high 1.6 billion bushels for the entire year ending June 30.

Accordingly, the year-end carryover may drop to about 550 million bushels, the least since 1952.

The record disappearance is holding farmers' prices well above the loan rate. The season-average price is estimated at \$1.34 a bushel, 9 cents above loan. This is the largest differential since the 1947/48 marketing year. The farm price is likely to remain above loan during the 1966 harvest.

The 1966 wheat crop is now estimated at 1,370 million bushels, slightly above last year. However, with continued large exports, disappearance during the 1966/67 marketing year likely will exceed expected 1966 output. Thus, the mid-1967 carryover could drop further, possibly to 350-400 million bushels.

The prospects for continued brisk disappearance and further stock declines led to the recent announcement of an expanded acreage allotment for 1967. The allotment is set at 59.3 million acres, 7.7 million above 1966. The loan rate for 1967-crop wheat will be announced in June.

Red meat consumption this year probably will average about the same or a little below the 166 pounds consumed per person in 1965. Pork, veal and lamb consumption may be down slightly; beef consumption will be a little higher.

Pork consumption dropped nearly 7 pounds per person in 1965 because hog producers cut back production after a period of low prices in 1963 and 1964. Consumption averaged 59 pounds per person last year and thus far in 1966 has been below this level. Smaller supplies, along with a strong demand for meat, increased prices to producers. This encouraged producers to raise more pigs and an expansion

is under way.

Pork consumption will be up in the second half of 1966, especially in the fall when hog slaughter supplies are expected to show a sizable increase over year-earlier levels. However, the increase may not be large enough to offset the reduced supplies in the first half of the year.

Also in prospect this year is a small increase in **beef** consumption over the 99 pounds consumed per person in 1965. Large slaughter of cows early in 1966, stepped up marketings of fed cattle this spring and in prospect for summer, and somewhat larger imports of beef are leading to the increase.

Veal consumption this year likely will be down as much as a half pound from the 5.2 pounds consumed per person in 1965 because calf slaughter is expected to be down. The decline probably will be rather general throughout the year.

Lamb and **mutton** consumption so far this year has been about the same as last year, but will be down for the year as a whole for the fourth consecutive year. In 1965 consumption of lamb and mutton averaged 3.7 pounds per person, the lowest since 1951.

Civilian per capita consumption of **chicken** and **turkey** climbed to a record of 40.7 pounds in 1965—up from 38.4 pounds in 1964 and 34.3 pounds in 1960. Chicken consumption in 1965 increased 2.1 pounds to 33.3 pounds, of which 29.4 pounds were broilers. At 7.4 pounds, turkey consumption last year was up a fifth of a pound from 1964. This year, per capita poultry consumption probably will rise 3 more pounds. This would be the largest annual increase since 1961.

Gross income from **poultry** and **eggs** so far this year has already shown another sizable gain. This follows the increase of \$183 million during 1965 from \$3,431 million in 1964. Practically all of the improvement anticipated for 1966 may have already occurred. In January-May, higher prices and larger production

raised **broiler** income by about 15 per cent from a year earlier. **Turkey** income, although seasonally small, was raised by about one-fourth. During the same period, a large increase in prices received by farmers for eggs pushed gross income from eggs up about a fifth above January-May 1965.

In the second half of 1966, egg and poultry prices are likely to average below a year earlier because of larger production and increased competition from other foods. The lower prices are expected to at least arrest the expansion in poultry income and probably will substantially reduce incomes from eggs. Nevertheless, for the year as a whole, both poultry and egg producers probably will earn appreciably larger gross incomes than in 1965.

Shorn **wool** prices (grease basis) to growers have been above a year earlier each month in 1966 and are expected to average for the year moderately above the 47.1 cents per pound received in 1965. The higher domestic price level this year is due to the higher level of U.S. mill activity resulting in part from increased military buying and increasing prices of wool on the world market. Shorn wool production in the United States during 1966 likely will show a slight decrease from 1965, reflecting a further, but smaller, decline in sheep numbers. Output of shorn wool in 1965 totaled 214 million pounds (grease basis) down 4 per cent from a year earlier.

Exports of unmanufactured **tobacco** in July-March 1965/66, at about 398 million pounds (declared weight), were 7½ per cent larger than a year earlier. Virtually all kinds showed gains, but flue-cured accounted for more than a third of the total increase.

Farm stocks of **hay** on May 1 totaled 22.4 million tons, 6.2 million more than a year earlier and 2.0 million above the recent 5-year average. The larger carryover was due to the combination of a big 1965 crop and smaller than usual disappearance. Disappearance during May-April 1965/66 amounted to nearly 118 million tons, slightly less than the year before. The May-December 1965 disappearance of 53 million tons was the lowest in recent years. However, severe winter storms over the northern portion

of the U.S. brought the January-April 1966 hay feeding to nearly 65 million tons, 6 per cent above 1965 and the 5-year average.

Potato supplies have been much larger this spring than last. Remaining storage stocks were larger in the West and production was up in most spring-crop areas. The late spring crop, which furnishes the bulk of June marketings, is up substantially. Partly in response to high prices, growers of potatoes for early summer harvest increased acreage materially over that of last year. With relatively heavy supplies in prospect into early summer, potato prices are expected to continue sharply below the near-record highs of a year earlier.

Compared with a year earlier, farm **milk** prices averaged 5 per cent higher in the first quarter and are expected to average 10 to 12 per cent higher in the second quarter. Farm receipts for milk and cream sales for the year are likely to be 6 to 7 per cent higher than the record-level \$5.1 billion of 1965.

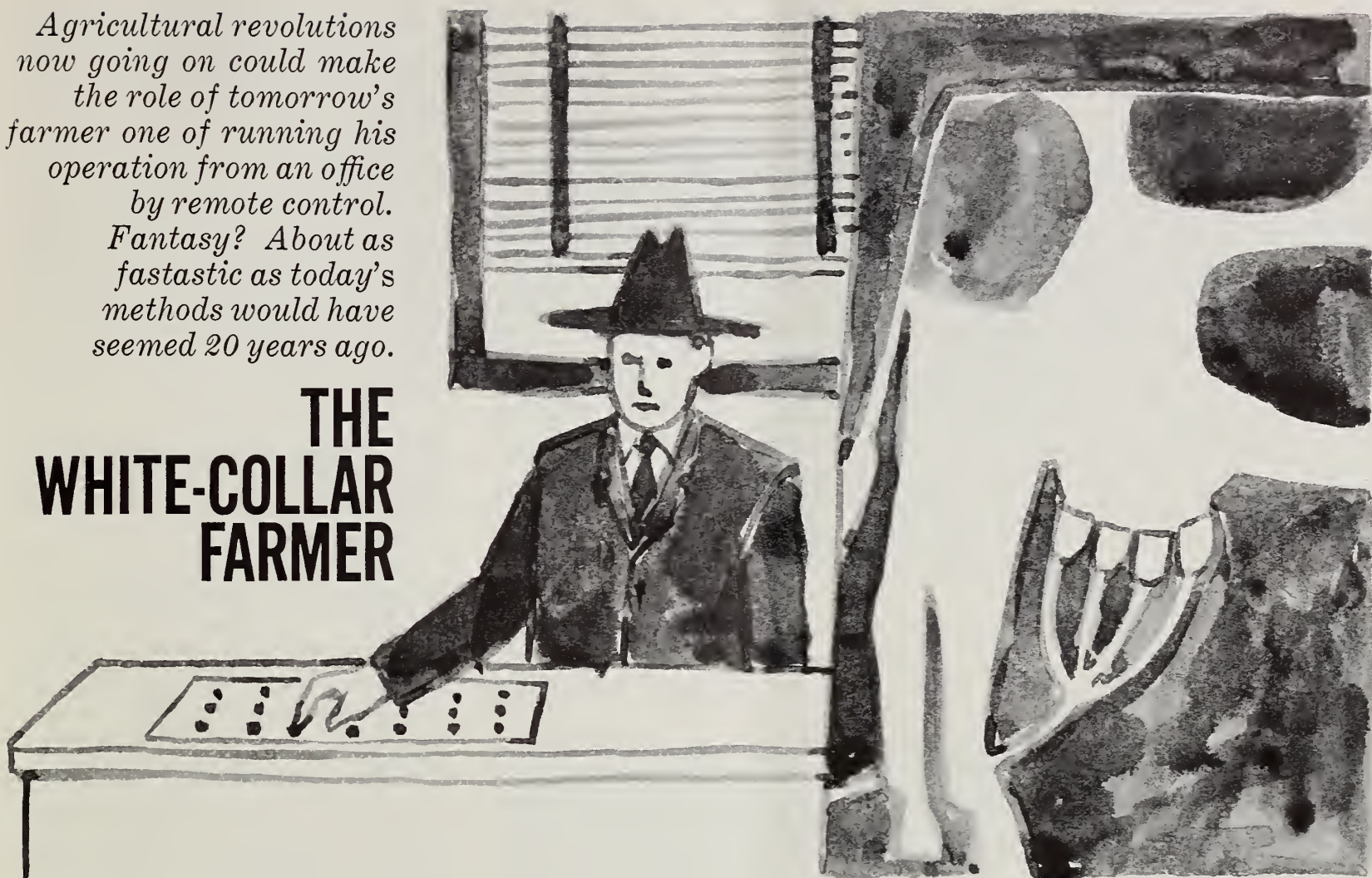
For the entire year 1966, milk production is expected to be about 2 per cent below 1965. This reflects low gains in output per cow from a year earlier in the first part of 1966 and fewer milk cows. Higher prices for slaughter livestock in early 1966 caused continued heavy sales of milk cows. But improved milk prices and prospects for more favorable feed supplies are expected to reduce the decline in milk production from a year earlier. U.S. dairy pasture condition as of May 1 averaged 84 per cent of normal, 3 percentage points above last year.

For the first two months of the 1966/67 marketing year (began April 1), USDA support purchases were sharply reduced from a year earlier. Removals from the commercial market this year are expected to be well below the 1965/66 level of 2.9 billion pounds (milk-equivalent).

Imports of dairy products are expected to be substantially larger this year than in 1965, while exports are falling because of reduced supplies. Even so, dairy imports will still equal only about 1 per cent of U.S. milk production. However, the U.S. is likely to be a net importer of dairy products (on a milk-equivalent basis) for the first time since 1939.

Agricultural revolutions now going on could make the role of tomorrow's farmer one of running his operation from an office by remote control. Fantasy? About as fastastic as today's methods would have seemed 20 years ago.

THE WHITE-COLLAR FARMER



Modern farming is the product of more than a century of change, change which started with the steel plow and the grain binder. This continuing revolution in agriculture has accelerated in recent decades and promises to go even faster in the years ahead.

Instead of one revolution in agriculture today, there are three—a revolution in the machinery of agriculture, in the science of agriculture and in the business of agriculture.

The mechanical revolution substituted machine-power for horses and men. The self-propelled grain combine is work for a single operator. It replaced the horse-drawn grain binder and the old steam engine and thresher with its eight-man crew and more recently the combine pulled by a tractor.

Since World War II, the number of tractors has doubled, the number of grain combines has nearly tripled. With the help of

these bigger, faster and more specialized machines, farmers have been able to cut in half the labor needed on the farm, from nearly 19 billion man-hours in 1945 to less than 8 billion a year in 1965.

The scientific revolution brought new types of innovations including such improved fertilizers as anhydrous ammonia and higher analysis solid plant food materials; a wide array of insecticides and herbicides; hybrid corn to substitute for the lower yielding open-pollinated varieties; new strains of wheat and oats for the rust-plagued varieties of the past; and improved crosses and breakthroughs in nutrition and disease control for more rapid rate of gain in the broiler house.

The new knowledge also extended the usefulness of the farmer's limited supply of land and water. Contour farming, optimum tillage, irrigation and more sophisticated management techniques help the farmer combine

his assets for greater profit.

In just the past 25 years, farmers have doubled average yields per acre of corn and cotton and have increased the yield of wheat by 60 per cent. For all crops, the production per acre has risen 51 per cent.

Today the average dairy cow produces 8,100 pounds of milk. Twenty-five years ago it was about 5,700 pounds. Today it takes nine weeks to raise a broiler to market weight and 2.4 pounds of feed per pound of live weight; 25 years ago it took 14 weeks and over 4 pounds of feed.

The mechanical revolution began when the cradle first replaced the sickle in the early days of the Republic. The scientific revolution is at least as old as the Poland-China, a breed of hogs developed when the Monroe Doctrine was first promulgated.

The third revolution—the revolution in the business of farming—has just begun.

Since 1939 the number of farms in the U.S. has dropped from 5.8 to 3.4 million. Most of this reduction has been in the number of small farms—farms that provide little more than subsistence living, and not always that. These are the farms that today generate less than \$5,000 in sales.

Meanwhile the number of larger farms has been on the upswing. Today there are about a million farms that have sales of \$10,000 or more a year. About 320,000 farms were in this category in the late 1930s.

These farms are becoming more and more commercial enterprises, where financial management and skill in business decisions are at least as important as skill with the plow.

Farming has moved from an era of near self-sufficiency to one of heavy dependence on off-farm industries. Since 1950 purchased agricultural inputs—machinery, fertilizer, feed, pesticides and such—have increased by a fourth while nonpurchased inputs—primarily family labor and operator-owned real estate—have declined by a third.

At the same time, demand for farm products is growing. The population is increasing. Per capita income is on the rise. And the demand for American farm products is steadily expanding abroad.

Tomorrow's farmer will not only be using more fertilizer, but he will be working with formulations that are more accurately prescribed for specific crops and field conditions. By 1980 he may average 175 pounds of fertilizer for each acre of cropland. During 1960-64 this average was 38 pounds.

Tomorrow's farmer may contract out even more of his operation than he does today. It would be another way of extending his resources. Even now dealers frequently take care of an entire fertilizer program for the farmer. It's already common enough for

the dealer to sell the bulk ingredients—anhydrous ammonia, for example—and include the field application as part of the price.

By 1980, in fact, many additional field operations—from tillage to harvest—will probably be contracted out, perhaps to other farmers or processors. The vegetable farmer of the future may, for example, provide only the land. He could contract to have his crops harvested by machines that include washing and sizing in the process.

Larger and more powerful tractors and other farm machinery will help speed the work of farming. They will make for more precise timing for tillage, planting and harvesting, too. Today's farm tractor averages 60 horsepower; some new tractors are much larger. In 10 years or so, the average may climb to 90 horsepower.

The new technologies may even change the very sky over our farms. Agriculture in time may be able to milk rain clouds for moisture and break up serious storms before they damage crops.

Orbiting satellites could be programmed to provide a wealth of data for soil surveys, weather forecasts and other agricultural data. For example, experimental work now under way suggests that satellite photos could be sharpened to the point where they could indicate the precise species of crop. The pictures could also reveal signs of disease and provide a more exact estimate of maturity and yield than is possible today.

There may even come a day when farm machinery will be automated. Perhaps taped instructions could tell electronically controlled tractors and harvesters when to move into the field, what to do when they get there and when to end their work.

Feeding and other farm chores will also, in part, be the work of automatically controlled machines.

To the farm boy of the future, even today's modern farm may appear as obsolete as grandfather's farm does to us. Opportunities and problems both will accompany the changes on the American farm scene. But farmers—along with the business and institutions that serve them—will innovate and adapt to innovation in the years ahead. Or their farms will die from obsolescence. (1)

Family Farms Strengthened Position During Recent High-Speed Evolution

Technological developments on farms of the future are not expected to change farming from being predominantly a family business, but the organization of farms may undergo marked changes.

Even during the high-speed evolution of recent years, farming as a family business has strengthened in position. In 1949 family farms accounted for about 95 per cent of all farms and for 66 per cent of the total farm marketings. In 1964 these proportions were estimated at 96 and 73 per cent.

Family farms have been riding well with past developments, like these structural changes between 1944 and 1964:

—The number of farms declined from 5.5 million to 3.5 million—a 36 per cent decrease. Nearly all of the decline was in the number of units having less than \$2,500 in farm sales.

—The amount of labor used in farming declined by 58 per cent.

—Agriculture expanded its output by 34 per cent.

—The use of purchased inputs increased by 48 per cent while the value of nonpurchased inputs used declined 40 per cent.

The most dramatic change among inputs has been the replacement of farm labor with mechanical power and machinery; they doubled in value from 1944 to 1964. (2)

Cotton Farmers Plant About 70 Per Cent of Allotted Acreage in '66

Cotton farmers planned to take 30.3 per cent—or 4.5 million acres—of their allotted acreage out of upland cotton production in 1966. Based on March 1 intentions, they planted about 10.8 million acres.

A total of 515,536 cotton farms in 20 states signed up to divert acreage. These represent 92 per cent of all cotton farms and 98 per cent of the 15.4 million acres in the national allotment.

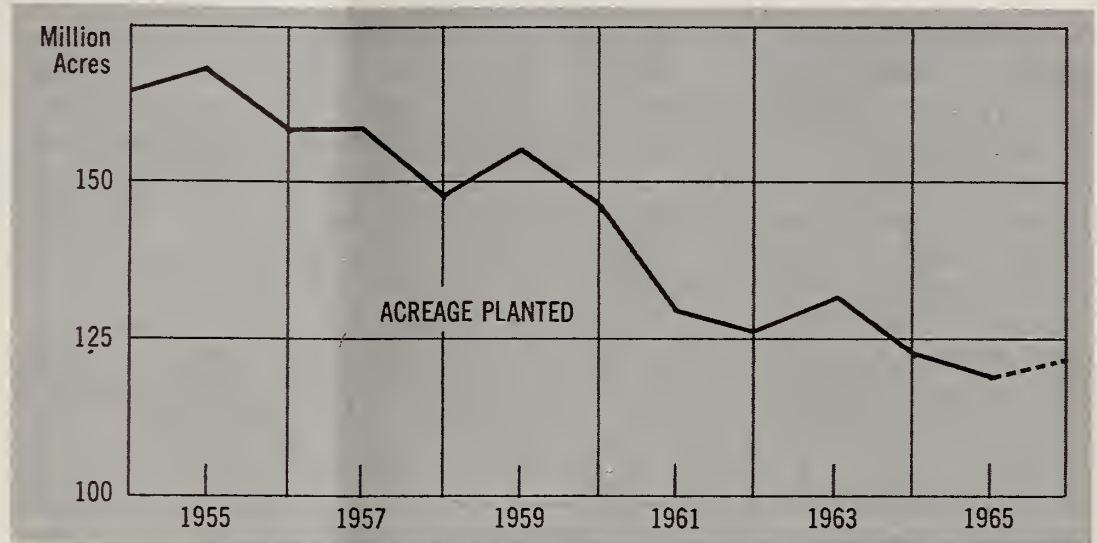
By taking part in the program, cotton growers agreed to reduce plantings a minimum of 12.5 per cent and comply with other program provisions. Producers could divert as much as 35 per cent of their acreage, thereby planting no more than the domestic allotment which is 65 per cent of the farm's effective acreage allotment.

The program was offered to all farms with an effective cotton allotment in 1966. The 294,869 small farms enrolled in the program that planted only up to the allotment will receive diversion payments without reducing plantings. However, these small farmers diverted 499,922 acres on which they will receive additional diversion payments.

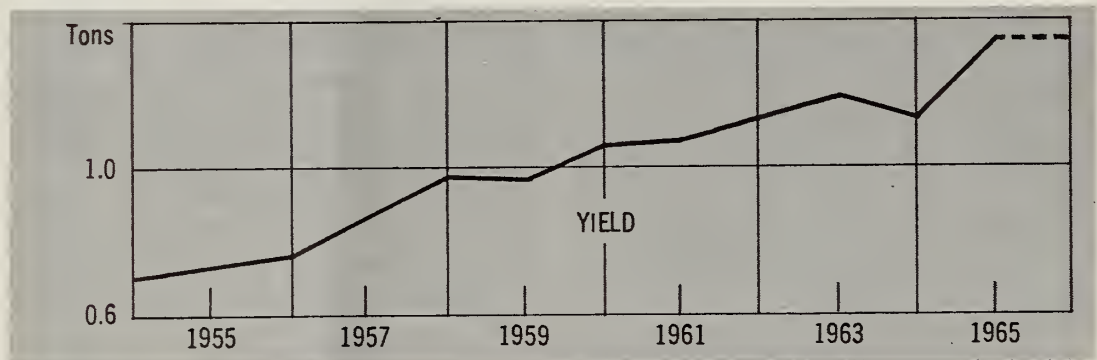
Upland cotton farmers taking part in the 1966 program received half of the estimated diversion payment at the time of the sign-up, if requested, or as soon thereafter as possible. The balance of the diversion payment and also the price support payment will be made later after compliance with the program provisions has been determined.

Under the export market acreage phase of the program, 78 farms with some 31,863 acres have been approved to grow cotton for export only. The number of such farms and the acreage have been steadily declining since signups for the program opened in January. (3)

SIGNS POINT UPWARD FOR FEED GRAINS



FEED GRAIN ACREAGE PLANTED: If farmers carried out their March 1 intentions, 121.5 million acres were planted to feed grains this year, 2.1 million more than in 1965. This is less than in other years of the feed grain program (1961-64) and about 30 million less than in 1959/60, base period for the program. All of the increase over 1965 is in corn (up 1.6 million acres) and barley (up 1.1 million acres), which more than offsets slightly smaller prospective acreages of oats and sorghum.



YIELD PER PLANTED ACRE: If the growing season is normal, the 1966 crops should yield about 1.36 tons per planted acre—up slightly from last year.



FEED GRAIN PRODUCTION: With average weather, continued upward trend in yield per acre and a "normal" growing season, production on the 121.5 million acres for the four feed grains may total about 165 million tons, 3 per cent over 1965 and about 10 per cent above the 1959-63 average.

Projected yields on the prospective acreages would give a corn crop of about 4.4 billion bushels, 5 per cent more than in 1965; sorghum, 614 million bushels, some 8 per cent less; oats, 914 million bushels, about 5 per cent less; and barley, 406 million bushels, down slightly. (4)

New Machines Help Labor Produce Record Fruit, Vegetable Crops in '65

Loss of foreign labor on one side; expanded domestic labor recruitment and adoption of greater mechanization on the other. The result: A slightly larger work force produced record crops of fruits and vegetables in 1965.

For all crops, however, labor used declined to 79 per cent of the 1957-59 level, a drop of 3 per cent from 1964.

Last year's record vegetable output was produced with a 2 per cent increase in man-hours while production per man-hour rose 4.8 per cent. A similar situation existed for fruit and nut production. A 2 per cent man-hour increase resulted in a 3.7 per cent increase in production per man-hour.

Here's how production stacked up in 1965 when compared with 1964:

—27 principal fresh market vegetables and melons up 4 per cent.

—10 principal vegetable crops grown for commercial processing up 3 per cent.

—Noncitrus fruit up 3 per cent.

—Citrus fruit predicted up 7 per cent.

—Edible nuts up 10 per cent.

—Sugar crop down 10 per cent (reflecting decreased acreage).

The main factor causing these increases in labor productivity was the adoption of new technology. Some of the techniques already in use or predicted for the future are:

Tomatoes. The tomato harvester eliminated about 3.5 million man-hours of labor this year—more than any other machine.

From a cost standpoint, growers reported hand harvesting ran about \$14 to \$15 per ton at the truck; machine harvesting, about \$10.

About 25 to 30 per cent of the California crop was mechanically harvested in 1965. Enough machines are expected to be avail-

able this year to harvest 80 to 85 per cent of the normal California acreage for processing.

Fruits. Although not yet used extensively, mechanical harvesters are a distinct possibility. Shaken fruit may bruise when it hits a limb, the catching frame or other fruit. But there is no real loss of fruit if it is processed within two hours for apples to two days for cherries from time of harvest.

Use of shakers for thinning peaches has cut labor from 30 to 50 hours per acre to four hours. Apple growers can save from 40 to 70 hours of labor per acre by machine harvesting.

Fruit growers can effect great savings by shifting to dwarf trees and more trees per acre. Yields per acre have been increased two to three times and workers don't have to use ladders. Labor input per bushel drops some 50 to 75 per cent. Another saving has come with the adoption of pallet boxes holding 16 to 20 bushels.

Citrus. The shaker is being tried on fruit for processing but is not yet commercially feasible.

Berries. Rapidly being adopted are vibrators with catching frames. These machines reduce labor input (75 per cent for blueberries) yet reduce quality only slightly.

Sugar. Mechanical cutters are being tried this year in Florida's sugar cane fields. Mechanized harvest operations have been in use in Hawaii for some time.

The sugar beet industry has already largely converted to machine operation. (5)

New Cotton Regulations Expected To Push Farm Income, Lower Stocks

The cotton industry's problems are expected to be eased as a result of the Food and Agriculture Act of 1965. There is hope that Americans will continue to use more cotton as they did last year and that foreign sales will show

new life in the future.

The act encourages farmers to reduce their cotton acreage and production may fall below both domestic and foreign needs. This should cause a reduction in stocks. Also, farm income will probably be higher for most producers than under preceding programs because of diversion payments. (For provisions of the act see January 1966 Farm Index.)

The reason Congress took such action is shown in carryover figures. It is estimated that on July 31, 1966, our carryover of upland cotton will be 16.5 million bales. In just five years, this carryover has increased more than 9 million bales or almost 2 million bales per year.

One reason for the rapid build-up is our increasingly efficient cotton farmer. Since 1951 the average yield per harvested acre has almost doubled. Harvested acreage in 1965 was only 51 per cent of 1951's, but production was down by less than 1 per cent or less than 100,000 bales.

From 1956 to 1963 consumption by domestic cotton mills remained steady between 8 and 9 million bales each crop year (7.9 million in 1957) even though our population increased. Thus, per capita consumption declined. Cotton's share of the total fiber market dropped from 73 per cent in 1946 to 46 per cent in 1964 on a cotton equivalent basis; manmade fibers increased from 21 to 51 per cent.

Cotton has suffered also on the export market as foreign cotton production increased. From 1956 to 1964 our exports declined at an average rate of 4.7 per cent a year. This decline occurred despite an export price that was maintained at about 24 to 26 cents per pound.

The Food and Agriculture Act of 1965 is not expected to reduce the cotton carryover greatly in one year, but it is expected to cause a substantial reduction in the carryover by the time the act expires on July 31, 1970. (6)

This is ERS . . .

This is the third in a series of articles on the seven divisions that make up the Economic Research Service. The series highlights the research studies and findings that help to answer the perennial ifs in American agriculture.

FARM PRODUCTION ECONOMICS

Three million commercial farms, all different in one way or another, are scattered the length and breadth of America.

Three million commercial farm operators, working silt or loam or clay, in cold climate and hot, on big farms and small—all have to make many management decisions each year.

Plant corn or switch to soybeans? Irrigate cotton? Add a livestock enterprise? Retire more land under government programs?

What will each of these alternatives cost? What will each return in net profits?

The decisions of a single farmer, right or wrong, don't noticeably affect the complex market mechanism that assures the nation and our export markets an adequate supply of food and fiber. But the decisions of 3 million farmers, taken in the aggregate, certainly do.

A government with responsibilities to farmer, to consumer and to taxpayer alike needs to know—in advance—what the decisions of the agricultural community are apt to be.

How will farmers probably react to changes in present and proposed farm programs? How much wheat would they grow if price supports were raised or lowered next year? The year after? What about cotton? Dairy products? Tobacco?

What's needed is a national "picture" of commercial agriculture based on farmers' past decisions in an almost infinite variety of situations, a representation that researchers can use to predict farmers' likely year-to-year

reactions to an almost infinite variety of changes.

Constructing a national "model" is one important step by which ERS's Farm Production Economics Division (FPED) captures the national picture of commercial agriculture.

Such an intricate model can be



PRODUCTION ADJUSTMENT

constructed only in the computer age. But computer answers depend on manmade inputs.

To program the computer here's what FPED economists have to do:

First, recognize the diversity of American agriculture. At present this is done by dividing the country into 47 geographic regions, then subdividing these regions into 97 farm types that encompass major combinations of crops and

livestock enterprises.

One region in the Corn Belt shows the scope of the problem. Here researchers have identified 20 specific alternatives that farmers can take. They can, for instance, grow corn or soybeans or wheat or oats or hay or some combination of these. They can produce hogs or beef or dairy cattle or a combination. They can accept or reject government payments tied to production controls under the feed grain and wheat programs.

For each alternative and combination thereof researchers estimate what yields and prices farmers can likely expect. These are calculated for each year to which the model is applied. For the same years researchers estimate how much fertilizer, labor, capital and other inputs are needed for each alternative crop or livestock operation. And finally they figure the costs of these inputs. From this mass of data economists estimate how much farmers can earn from each alternative.

But what farmers can earn is only one side of the coin. They have only so much land, labor and capital. Their decisions are also influenced by personal preference, their own farming skills and by government programs.

Economists recognize these factors by adding to the model certain "restrictions" on the farmers' choice of alternatives. The region in the Corn Belt, for example, includes 50 such restrictions. Some of the other regions are far more complicated with up to 160 alternatives and 200 restrictions.

Once the alternatives and re-

strictions are spelled out for each region, the model is programmed into the computer. For years to come the computer can now help researchers provide timely economic intelligence on production responses.

The national model is but one project in one of the six major areas of research in the Farm Production Economics Division:

Agricultural Adjustments, Production Response and Farm Program Appraisal. Basically this area addresses the problem: How can American agriculture redirect its physical resources, its know-how and technology to produce enough food and fiber for our own needs, for foreign aid and for commercial exports without producing an overabundance that could jeopardize farm income?

Like putting together a jigsaw puzzle, this broad research commitment requires investigation of one piece at a time.

FPED economists, for instance, have shown how dairy farmers in the Lake States could raise their income by upgrading the quality of their cows, by increasing herd size and for the larger herds by switching from stanchion barn milking to a loose housing milking parlor.

Under allotments in one recent year rice farmers in the Delta States harvested about 1 million acres; the price they got for rice was about \$4.85 a hundred pounds. Without any production control program and using up-to-date methods, how much would they grow?

Studies indicate that at \$4 a hundred pounds, rice farmers in the Delta could still make a profit by increasing output through expanding rice acreage to 2.5 million acres. At \$3, however, they would improve profits by switching to other crops and cutting riceland to 1.3 million acres. At \$2.30 a hundred pounds, farmers would cut back total rice acreage to about 200,000 acres.

What about the government's

farm programs? How do they work at the farm level? Congress and other government officials need answers to these questions in planning future programs.

FPED economists, for example, surveyed farmers in the Corn Belt and the Texas High Plains who participated one year in the feed grain program and compared their profits with farmers who did not. In both areas more than half the farmers did better financially under the programs.

Structure of Agriculture and Economics of Farm Size.



PRODUCTION RESOURCES

Agriculture has adopted new machines, new management techniques, new ways of doing business with suppliers of farm inputs and buyers of farm products.

The changes have raised questions. Farms are getting bigger, but there are fewer of them. Is agriculture being taken over by the big commercial firms? Does this mean the end of the family farm, the cornerstone of our agriculture for three centuries?

At what size does a farm become most efficient?

What effect does this changing "structure" of agriculture have on farm income, use of land and labor, age of farmers and their tenure, that is, how much land they own, how much they rent?

All these interrelated trends are being closely watched and analyzed by FPED economists. And some positive answers are emerging:

No, the family farm isn't disappearing. If anything, it's stronger than ever. True, there are about 2 million fewer farms in the mid-1960s than back in 1949. But research shows that nearly 90 per cent of the farms with gross sales of \$10,000 or more today are run by families with mostly family labor. And this group of family farms is the fastest growing sector of the agricultural economy.

Moreover, farms need not get "big scale" to be run efficiently. FPED analyzed cotton farms in Texas and California, dairy farms in Minnesota, and beef cattle ranches in Colorado. In each case a medium-size operation had unit costs as low as a large operation.

Among other subjects in this research area: How much land and capital must a farmer have to earn \$2,500 to \$5,500 a year for his own work and management? What are the pros and cons of contract farming, an arrangement whereby a farmer grows-to-order for a predetermined buyer?

Agriculture Finance. To fulfill this research responsibility economists analyze the capital that farmers have or need, their debts and assets.

Keeping tabs on the financial condition of the nation's farmers—and what their future position is apt to be—is the basic job in this research area. Economists assess farm capital and credit needs, farm assets and farm debts. And once a year the Division adds up all the assets, compares them with farmers' debts and other claims and issues a *Balance Sheet of Agriculture*.

Yearly, too, the Division studies

the factors that affect agriculture's financial health. Are interest rates rising? Is credit getting tighter? Are farm debts pushing against safe limits? Past trends and future prospects are published in *Agricultural Finance Outlook*.

The Division conducts in-depth studies of farm credit. One such study in Missouri and Montana showed rural homeowners often couldn't get the long-term mortgages that city owners get. The study buttressed the need for the rural housing programs of USDA's Farmers Home Administration.

Then there's the problem of how much insurance farmers have or need to protect against crop losses due to weather, fire and other hazards. Division economists surveyed farmers in Montana and Virginia after both states had been hit by severe drought. Crop insurance had saved many farmers from serious financial losses.

Farmland Values and Valuation. How much have land prices gone up in the last few years, for example, on farms in Alabama, orange groves in Florida, rangeland in Montana? Do farmers make as much farming as they would investing in stocks?

Answers to such questions flow from FPED's twice yearly pulse-taking of the farm real estate market. A voluntary corps of 8,000 farm real estate reporters and 15,000 farmers send in data on actual selling prices of farms, types of sellers and buyers and their methods of financing.

They also estimate how many sales are voluntary and how many are foreclosures. Then from these figures FPED is able to calculate how much farmland is worth per acre in every state in the country.

Results sometimes seem surprising. For instance, farmers in one recent year netted more—4.4 per cent on market value—from farmland than if they had invested in stocks; the dividend rate

for all common stocks that year was only 3.1 per cent.

Economics of Farm Labor, Practices and Technology. Wages that farmers pay hired workers continue to climb. Farmers have been responding by using more and better machinery and equipment, chemical weed killers, minimum tillage and other laborsaving methods. Such methods, together with higher yielding crop varieties, more fertilizer and better livestock now enable one farmworker to produce more food and fiber than ever.



FARM CREDIT

But laborsaving methods aren't likely to do away with all need for hired workers, depending on size and type of farm. Meantime, wages that farmers pay are more in competition with industrial wages and benefits.

What's ahead for farm workers? Minimum wage legislation? Unemployment insurance? Workmen's compensation? Other fringe benefits? A major Division responsibility is to keep abreast of such possible developments and analyze their probable effect on

agriculture.

A publication called *Changes in Farm Production and Efficiency* shows the trends and their implications in the number of acres we cultivate, the amount of fertilizer we use, how many livestock we have, how much feed they eat, how much food and fiber we produce for each hour of labor and in many other aspects of the farm scene.

Farm Costs and Returns. Farmers used to produce most of their own fertilizer, seeds, livestock feed and other production inputs. Today they buy most of these things and if the cost goes up faster than the price they get for what they grow, net income suffers. To help farmers plan for the year ahead FPED analyzes what's been happening to such costs and indicates the outlook. Conclusions are published each fall in the *Farm Cost Situation*.

Another broad project in this area of costs and returns explores these questions:

What incomes, gross and net, are experienced farmers running typical commercial farms actually earning? How much do they have invested in land and buildings, in machinery and equipment, in livestock? What are their operating expenses?

The Division answers such questions each year for 42 major types of commercial farms in 24 big farming areas of the country. They include farms as small as a 10-acre egg operation in New Jersey and as large as a 1,300-acre cotton farm in California.

As the name implies, then, the Farm Production Economics Division is the one group in the Economic Research Service that deals with all the management aspects of producing the nation's food and fiber. Its basic purpose is to provide research that can help farmers, policymakers and others make sound decisions in a growing economy which generates new capabilities—and new problems—year by year. (7)

mid-continental playground

Prosperity, having touched many parts of the nation, has long bypassed much of the Ozark Region. Now, however, some of the affluence is beginning to touch the region. Come summer, mid-western vacationists head for the area's scenic hills, forests, rivers and reservoirs. Revenues from recreation are putting new life into the economy. In time, the Ozark Region could become the Midwest's No. 1 recreation area.

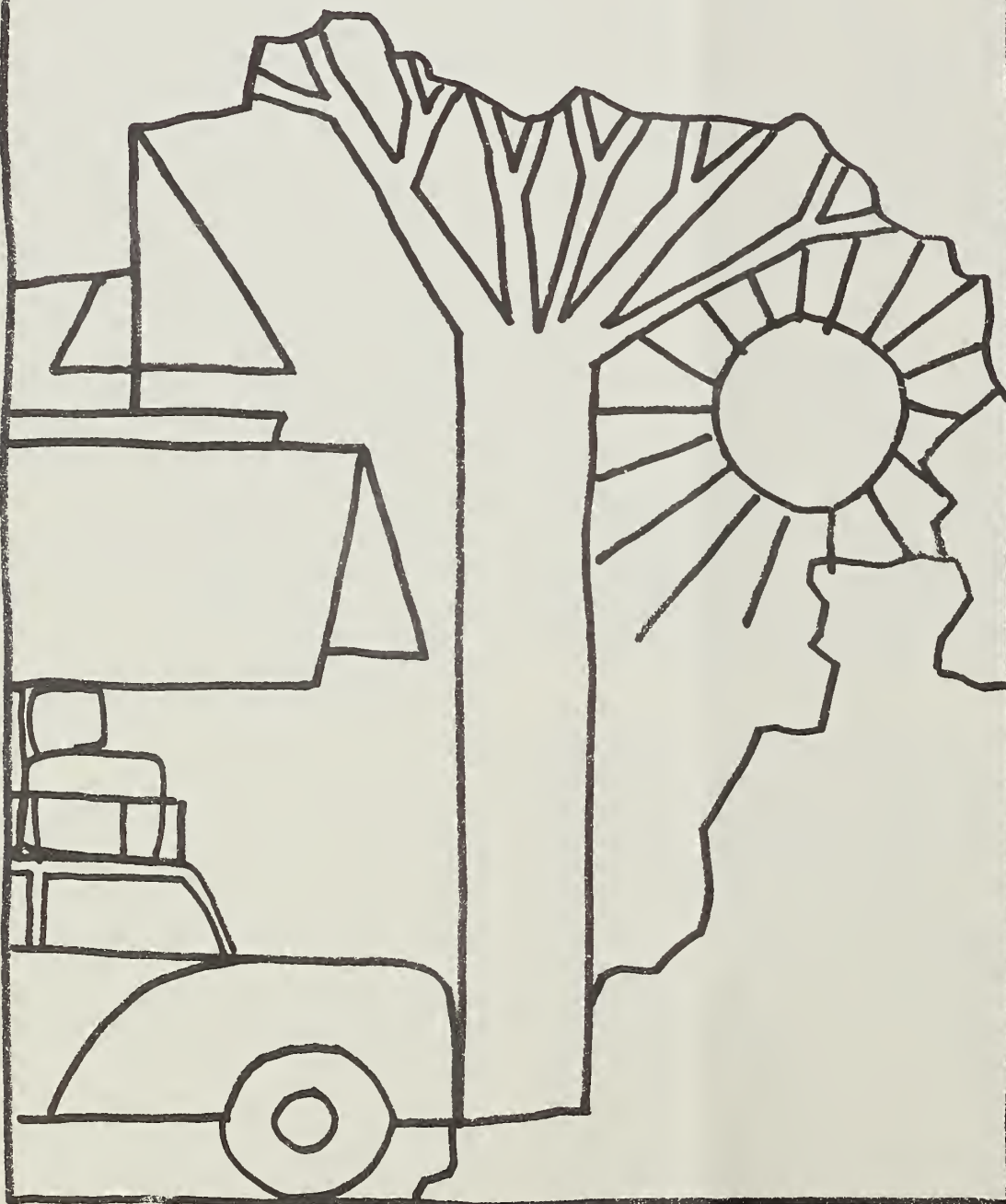
The Ozark Region's rugged terrain, once the area's biggest economic handicap, is turning out to be a major asset in drawing vacationists from all parts of the Midwest.

The scenic Ozark and Ouachita Mountains, along with numerous manmade lakes originally developed for flood control, are top attractions for tourists from as far north as Illinois and as far south as Texas. And these tourist dollars are putting a spark into the Ozark economy which has been missing since the timber industry passed its peak early this century.

ERS economists in the three-state Ozark Region have conducted a number of studies which point up just how important recreation has become in terms of dollars and cents.

One study of 31 counties in the Missouri Ozarks showed that recreation and tourism accounted for nearly \$70 million and 5,300 employees in the economy in 1959. In addition, nine out of 10 operators of trade or service firms in the counties reported that some of their business came from the tourist trade.

It was the same story in Arkansas. Researchers estimated that



travelers, many bent on recreation, spent some \$167 million in the state in 1960 and \$259 million in 1963. Travel-serving businesses comprised about one-sixth of the sales of all retail trade and service firms and accounted for nearly one-third of the 1960 retail and service employment.

In Oklahoma, the total volume of expenditures by out-of-state motorists in 1959 was estimated at \$141 million. Approximately 31,000 persons in the state had jobs supported in part by those expenditures.

Better still for the Ozark economy, some of the vacationists who came to play for two weeks elected to stay longer. A number of these vacationers have built their own weekend or summer homes in Ozark recreation areas.

There were approximately 34,000 part-time homes in the region in 1960—about 4 per cent of all housing units. A study of the contribution of these part-time residents to the economy of one county in the Missouri Ozarks showed that each family spent approximately \$1,200 in 1960 for food and other consumer goods in addition to the investment in their homes. The homes in the study had an average sale value of \$7,500.

Many men with second homes in the Ozarks were nearing retirement—about 63 per cent of the owners in the Missouri study were 50 and over and about 19 per cent were 65 and over. A good number of them planned to make their part-time homes permanent residences when they retired, adding even more to local income. (8)

Lovely Lake Lures Tourists and Trade To Neighboring Missouri Ozark Area

The Lake of the Ozarks was developed by a private power company 35 years ago to generate electric power. Today it generates not only electricity but more recreation income than any other

single recreation complex in the Missouri Ozarks.

Almost immediately after it was completed in 1931, the lake became a fishing attraction for midwestern anglers. To meet the needs of fishermen, rustic cabins were erected along the major access roads. And that was the beginning of a multi-million dollar business for local residents.

By 1960 there were over 500 resorts and motels on the lake, 6,000 summer homes and 1,000 other service firms. A state park of 16,500 acres was located on the lake with 4,000 acres of campsites near the water. It is one of the most often visited of all state parks in Missouri.

What has recreational development of the Lake of the Ozarks meant to the economy of the counties surrounding it?

Development on the lake proceeded slowly until after World War II, when it started to boom. For example, about \$1 million was spent by vacationers in the area in 1939; by 1948 the amount had increased to \$3.8 million; by 1960 it was over \$15 million and has been climbing more than 10 per cent a year since then. In 1965 tourists spent an estimated \$25 million-plus in the area.

Camden, the county in which much of the lake is located, has had an average increase of 138 per cent in median family income from 1949 to 1959, compared with an average increase of 97 per cent for the whole state. Population also increased, contrary to the trend in other rural Ozark counties. A new courthouse, new schools and other public buildings have been built since 1950.

Actually, the whole area surrounding the lake is caught up in a building boom. Recent estimates show that over \$50 million has been spent to build homes and resorts on the lake shore. Their cost alone is much greater than the \$30 million originally spent to create the lake. (9).

Campers Plan Trips Well in Advance, Pick Grounds With Comforts of Home

Opening a campground? Here are a few pointers on how to draw the customers:

—Most camping enthusiasts planned their trips well in advance. ERS economists in the Purdue University Agricultural Experiment Station recently mailed a questionnaire to 815 members of an Indiana campers' association. For the 95 per cent who regularly took summer camping trips, the average planning time was three to four months.

—In planning when and where to go, the three main sources of information were (1) friends who camped, (2) state government booklets or leaflets, and (3) road maps supplied by oil companies. Seventy per cent of those queried also regularly read camping magazines.

—The whole family helped to pick out the destination. Advertising aimed at the family group, rather than just one member, was most successful in attracting attention.

—Preferred campgrounds were those fairly close to state parks and forests, reservoirs, historical points of interest or other scenic areas. But campers wanted to be reasonably close to civilization, too. Grocery stores, gas stations and other service facilities within an easy drive of the camp were big factors in selecting a campground.

—Reasonably good roads to the campsites were important. Most of the regular campers queried in Indiana had either a tent in trailer, camper on truck, pull-type mobile home or two or more camping outfits. They needed roads wide enough and smooth enough to handle their equipment.

—Water sports—swimming, fishing and boating—were tops on the list of things campers liked to do on their vacations. The most popular campgrounds either had

the facilities for these sports or were within easy reach of them. Also, many campers wanted playgrounds for their smaller children.

—Plenty of clean restroom facilities and places to wash and dry their clothes were a virtual must among those who camped for longer than a weekend. Many campers also wanted and would have paid extra for electricity, hot water and access to sewage disposal facilities.

—The average price campers were willing to pay for a campsite was \$1.40 a night. Ninety-five per cent said they would pay up to \$2 for a well-developed campsite but no one was willing to pay over \$4. (10)

Democracy, Power and Work Plans Help Water Laws Get the Job Done

To conserve water, to provide for irrigation, to make water available for farms and cities—for these purposes and others a state may create a special governmental district.

The broad authority within which these special, frequently single-purpose, agencies are formed are the enabling laws enacted in the statehouse.

Potential success of individual projects can be built into the enabling legislation when it spells out the authority, the purpose and the limitations of the governmental group.

The following outline suggests some standards that were developed by the researcher for measuring the adequacy of laws that govern special governmental districts.

The democratic process. The special district is a unit of government. As such, it has certain financial and police powers over citizens within its boundaries.

Thus, the public should be able to control the district through elections and modify the policy through a referendum vote. At the outset the enabling laws

should spell out the organization of the special district and the procedures for petition, election, hearings, appeals and such.

Enabling legislation should also draw the boundaries of special districts to include the people who will be disadvantaged from its operation as well as those who will benefit. And it should provide for representation of both groups in management decisions.

Legal power. It is one thing to have the authority for a job, quite another to have the power to get it done. To operate a water distribution system, to dig drainage ditches, the special district needs such powers as the right of eminent domain, the right to buy and sell property, the authority to sue or be sued, to issue bonds, or levy taxes. It should, in other words, have its corporate and financial powers spelled out in legislation.

Cooperation with other units of government. Created, often as not, to manage the natural resources of an area, special districts should carry within their enabling legislation positive instructions to cooperate with other city, county, state or federal groups having like missions. Though few special districts are actually barred from such cooperation, working out joint approaches to planning or cost sharing, for example, could be encouraged and simplified if provisions were written into the original legislation.

Plans for work development. These preliminary studies should provide a clear indication of the likelihood of economic, financial and managerial success of district projects, all within the framework of state or regional plans.

Flexibility. The need for legislative amendments can be avoided if the law provides a broad enough outline of the district's functions, one that offers some leeway to alter the scope of work as future conditions happen to dictate.

Reviewing agencies. Though

special districts characteristically operate with considerable autonomy, a review procedure for financial reports, tax matters, bonding and the like should be written into the legislation. (11)

Nation's Vo-Ag Students Outnumber Farms Available for Them to Operate

A word of caution to young men studying to be farmers: There are a lot more of you than there are adequate size farms for you to take over.

Of course, many of today's vo-ag students aren't planning to be farmers. A number of them will likely take jobs with farm-related industry, a diverse field that runs the gamut from rural banking, feed and fertilizer firms to food processing and retailing.

However, in 1960, the latest year for which data are available, there were 676 vocational agriculture day students for every 100 adequate size commercial farms becoming available.

The prospects in some states were better than in others. In Iowa and Kansas, for instance, there were only two students for every farm opportunity. But in Alabama, Louisiana, North and South Carolina and Tennessee there were 20 or more students for every farm. In fact, in every southern state the ratio was seven to one or higher.

These findings are based on an ERS analysis of the 27 states where 5,000 or more youngsters age 14-17 were taking vocational agriculture in high school. Economists compared the number of students with the number of adequate size commercial farms in each state that might become available to them through inheritance or purchase by the time they were ready to farm.

Farms counted were those with sales of \$10,000 or more a year and where operators were 55 years old or older, that is, approaching retirement age. (12)

Louisiana Families Increase Income With Knowledge of English Language

The United States is often described as an international melting pot. But in reality, every state in the nation can lay claim to at least one ethnic group which hasn't completely melted.

The Louisiana French are one of the largest of these incompletely assimilated groups—distinguished particularly by language. Recently a sociologist in the Louisiana Agricultural Experiment Station in cooperation with ERS reported on interviews with a number of families in two predominantly French parishes. One purpose of the interviews was to find out if French speakers differed economically from their English speaking neighbors.

The families contacted fell into three groups on the basis of the dominant language at home: (1)

French, (2) bilingual but English predominantly, and (3) English.

Both of the parishes in which the interviews were held were low-income areas in comparison with the rest of the United States in 1959. But within these parishes, the income of the French speaking households proved to be distinctly lower than that of the predominantly or solely English speaking households.

Sixty-five per cent of the French speaking households reported incomes of less than \$1,500 in 1959, compared with only 40 per cent of the English Group (which included a large number of Negro families reporting exceptionally low incomes). The bilingual group had the smallest proportion of families earning less than \$1,500.

More of the family heads in the French speaking group were farmers than in the other groups. But farming was not the explanation for the French families' very

low incomes. In all three groups—English, bilingual and French—farmers had lower average incomes than nonfarmers. But a much higher proportion of the French speaking farmers reported incomes under \$1,500 than in the other two groups.

The same held true for those not engaged in agriculture. The average income of the French nonfarmers was only about two-thirds those of the bilingual or English groups. And while very few of the French speakers not engaged in farming earned less than \$1,500, only one earned more than \$5,000.

Comparing just the incomes of the bilingual and the French speaking groups showed that the bilingual households, both farm and nonfarm, averaged about \$2,400 a year in income—at least \$1,000 more than the average income received by the French speaking families. (13)

LOW INCOMES ASSOCIATED WITH LOW USE OF ENGLISH

Occupation and language used at home by household head	Families earning—				
	Under \$1,500	\$1,500 to \$2,999	\$3,000 to \$4,999	\$5,000 and over	Total
	Per cent				
Farm operators:					
French	75	15	5	5	100
Bilingual	67	12	4	17	100
English	50	18	13	18	100
Nonfarm workers:					
French	43	37	18	2	100
Bilingual	10	44	21	25	100
English	35	21	26	18	100
Total:					
French	64	23	10	4	100
Bilingual	30	33	15	21	100
English	40	20	22	18	100

THE NORTHWEST PASSAGE FOR GRAIN

The Pacific Northwest is already the principal gateway for exports of white wheat. Recent changes in the transportation rates should help draw more Hard Red Spring Wheat and Durum to the area's elevators.



Wheat men in the Pacific Northwest are in an enviable position. They have California, a prime domestic market just south of their borders. Westward across the Pacific lies the top commercial foreign market for U.S. wheat, Japan, which took 62 million bushels in fiscal year 1965.

Internally the Pacific Northwest is, in fact, unique as a market area. Most of the wheat is handled by farmer-owned country

elevators. The farmer in general maintains ownership until the wheat is sold to an exporter, miller, or feeder.

But externally the Pacific Northwest is no more independent or insulated than any other region. There is no padlock on their principal markets. And many a production area, just beyond the borders of the Pacific Northwest, is willing and able to cut into the market.

The Northwest, in other words, is a typical competitive arena. In 1965 Washington-Oregon wheat farmers produced 41 per cent more wheat than the average for 1959-63. Even so, their importance, relative to total U.S. production, slid slightly, going from 14 per cent of the total in 1954 to 11 per cent in 1965.

Nevertheless, until recently, country elevators in the West have had more survival power than those in the rest of the nation. For the U.S. as a whole, one out of six went out of business between 1948 and 1958. But in the Pacific Region, the loss amounted to about one elevator in 10 during the same period.

Now, however, country elevators in the Pacific Northwest are also beginning to feel the squeeze of low earnings and excess capacity. Average earnings for country elevators in the area in the 1963/64 marketing year were down two-thirds from 1958.

Lower production levels, more storage on the farm, and smaller carryover have pushed the country elevators into this position. Developments on the transportation scene will change things even more.

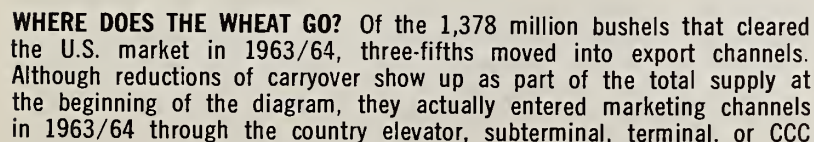
The waterway up the Snake River to Lewiston, Idaho, should be open for traffic by 1972, providing cheaper transportation than either trucks or trains to ports on the coast.

When that happens, nearby country elevators will shift operations to the waterway. If mid-western trends can be taken as a guide, country elevators along the waterway will be bigger than the ones they left behind.

And model elevators developed from Montana have indicated a total cost per bushel of 8.3 cents at capacities of around 355,000 bushels; a cost of 4.0 cents when the capacity was raised to 1 million bushels. In terms of capacity alone, every new elevator along the waterway might displace two or more inland elevators.

With exports accounting for three-fourths of all the wheat handled in the Northwest, anything that affects the cost of transportation into the area changes the whole market structure. The area's export trade was noticeably strengthened by the 1962 rates of 70 cents per hundredweight on

The Pacific Northwest is already the principal gateway for exports of white wheat. The rate changes should help draw more Hard Red Spring Wheat and Durum to the area. (14)



17

Tabulations from California's Border Dispel Some Myths About Truckers

One of the byproducts of government regulated commerce is information. As agents check off shipments, routes, tonnage, they also gather the data statisticians and economists use in analyzing industry performance.

Thus the nonregulated truckers who handle agricultural products—the exempt carriers—are to some extent an unknown element. Since no agency regulates their activities, no one collects regular statistics on this segment of the shipping industry.

However, a recent exploratory study offers some insight into the state of nonregulated truckers. The study draws on interviews with a sample of 210 truck drivers

(112 nonregulated carriers) hauling produce out of California. The interviews took place in July 1965 at the plant quarantine stations at the state border.

The study selected age of vehicle as one easy-to-measure indication of substandard equipment. The findings suggest there is no noticeable connection between how old the equipment is and the type of carrier—private, regulated for-hire, or for-hire nonregulated.

The survey also tested out a couple of other premises: the smaller the company, the older the equipment; the newer the firm, the newer the equipment. Neither possibility turned out to be statistically true.

It has also been suggested that nonregulated truckers add to the instability of the industry in part, at least, because nonregulated truckers are largely one-truck, owner-driver firms.

But only 17 trucks—little more than 15 per cent of the sample—were driven by owners.

Another sign of instability in the industry would be drastic changes in the size of firms within a given period. But the sample showed little change in the size of fleets since 1960. The median was four truck-tractors in 1960; five in 1965.

The figures on longevity also suggest that exempt truckers are anything but a fly-by-night part of the industry. A comparison of estimated years in business for 1960 came close to matching the distribution for 1965. The comparison indicates that most of the companies doing business in 1960 were still on the scene five years later.

The exempt status of agricultural truckers permits more flexible service, providing trucks where and when needed by shippers. The sample indicated the nonregulated, for-hire truckers do, in fact, shift their operations to some extent in response to seasonal demand. (15)

After-Tax Profit Picture Was Mixed For Food and Related Firms in '65

For some leading manufacturers of food and related products 1965 was a good year, for others not so good.

Net income of 324 leading manufacturing firms producing food, fiber products and tobacco totaled 13 per cent higher in 1965 than in 1964. A major factor in this higher after-tax profit was the second-stage drop in the federal corporate income tax, from 50 to 48 per cent.

Groups that increased profits as a per cent of sales include dairy products (up from 3.1 to 3.3 per cent), sugar (3.1 to 3.7), textiles (3.4 to 4.2) and clothing and apparel (3.6 to 4.1).

Profits in the baking industry were down slightly, from 3.0 to 2.9 per cent of sales in 1965, compared with 1964.

A sharp drop occurred in the meatpacking industry, which saw net income fall from 1.1 per cent of sales to 0.6. Total profits for 26 firms fell 38 per cent.

One reason for the decline in meatpackers' income was the higher price farmers received for meat animals in 1965. Part of the price increase was absorbed by the meatpackers themselves.

Another way of gauging profits is net income as a per cent of net assets, that is, stockholders' equity. By this measure the 1965 trend was about the same as net income as a per cent of sales.

Dairy products, sugar and the food products group which includes everything else except baking and meatpacking all showed higher profits as a per cent of net assets. The 12 firms in the dairy products group reported the highest profits—12.5 per cent of net assets. Meatpacking firms had a 5.0 per cent profit.

The profits picture was obtained from the First National City Bank of New York. (17)

Bull Market for Wool

Americans bought a lot of clothes, rugs, drapes and other fabrics last year. Per capita domestic use of our three big fibers—cotton, wool and synthetics—was higher in 1965 than at any time since 1943. At 8.8 billion pounds, total fiber consumption hit a new high.

For wool, last year's stepped up demand has had a carryover effect on this year's marketings. Growers have been selling the 1966 clip somewhat ahead of the usual schedule and at prices that will average moderately above the 1965 national average price of 47.1 cents a pound (grease basis). Shorn wool prices have been higher each month this year. In March and April, as the clip began to move in substantial quantities, prices averaged 4.4 cents a pound, or 9 per cent, above the same months last year.

ERS specialists say the higher price level in 1966 is due to two factors: Mills are using more wool this year than last. And there's a general price increase for wool on the world market.

While wool prices are up, prices quoted for four competing qualities of man-made fibers were down in May this year compared with a year earlier. (15)

Distribution Costs Take Bigger Bite Of Price Consumer Pays for Bread

Higher costs of baking and distributing were the main reasons for a 65 per cent increase in the retail price of bread from 1947-49 to 1965. The baking industry has found ways to offset some of the increased cost of baking through mechanization. ERS economists say the big problem lies with distribution costs.

Salesmen's wages increased about 85 per cent from 1947 to 1965. The volume of bread delivered per wholesale route declined to 70 per cent of the 1947 level by 1958 and has continued to decline ever since.

For every dollar the consumer spent for bread in 1947, 40 cents went toward distribution costs; in 1958, 51 cents. The 1947-49 retail bread price averaged 12.7 cents for a 1-pound loaf; in 1958 it cost 18.5 cents. Distribution cost increases accounted for about 72 per cent of this bread price increase, compared with 28 per cent for production and administration overhead.

Three main reasons are cited for increased distribution costs: (1) wages, (2) product deterioration caused by overstocking, and (3) advertising, discounts and allowances to customers.

As for the reduced volume delivered by a salesman, the problem lies in the many new product varieties offered and the additional work they have caused. Today there are over 20 types of bread in general distribution, plus numerous other bakery products. To keep track of such a host of items slows down the salesman in the performance of his many duties, which include truck driver, broker, accountant, collector and interior decorator. Some of these tasks might be more effectively handled by the groceryman, whose function is merchandising.

Many bakeries have attempted to solve their distribution prob-

lems by merger. In 1939 there were over 10,000 plants; in 1963 only 5,003. With larger plants, bakeries have increased their line of products and sold them through fewer distribution channels—in some cases, over greater distances.

But these mergers often bring with them a new distribution problem. In sparsely populated areas, for instance, costs might tend to increase through the use of distribution centers or depots. for bread deliveries. (24)

Little Farmer, Big Market: Co-Ops, Contracts, Orders Help Balance Scale

What can any one farmer do to get a bigger share of the money spent by the ultimate consumer?

Answer: not much.

There are, however, a number of ways the farmer can modify the returns for his labor and for his product.

Though no single grower has enough weight in the market place to change prices all by himself, the individual producer *can* increase his efficiency. It amounts to the same thing in terms of increasing the net return.

The farmer might also turn to cooperatives in the attempt to increase his income.

Through the efficiency of centralized management, large-scale operations, volume purchases and such, the cooperative can buy the fertilizer, seed, chemicals and other production inputs on discount terms, helping to lower costs.

One citrus cooperative, for instance, claims running a plant of its own cut fertilizer costs by a third.

Cooperative services range from aid with cultivation and other production practices to packing, processing and marketing the output.

Another way for farmer to join farmer for greater strength in the market place is with the aid of federal or state marketing

What's New In Marketing Research

They found a dream house at \$18,000. Now they will spend another \$300 or so on a lawn, a few plants and perhaps even a flowering tree or two.

New home owners and determined gardeners are the reason that flowers, shrubs and trees are worth over half a billion dollars in sales every year.

A new study launched by ERS will take a look at the southern segment of the industry, where sales amount to about a quarter of the national total. Specifically, the research will cover sales of woody ornamentals like azaleas, boxwood, laurels, camellias and such.

The study will also assess growth possibilities of the industry in the South. The researchers will pay special attention to the growth of mass markets, and the new technologies for storing, handling, packaging and shipping woody ornamentals.

The study is part of the larger Southern Regional study of woody ornamental plants in the nursery industry. (19)

agreements and orders. The main difference between agreements and orders is that the former is voluntary and the other, once agreed upon by a voting majority of the farmers and approved by the Secretary of Agriculture, is mandatory in a given production area.

Federal orders give the farmers a chance in some instances to govern the volume of shipments, maintain certain levels of quality, and provide standards.

The state orders may do some of these jobs as well as providing for advertising and promotion. In 1965, Congress permitted paid advertising through the use of federal orders for 15 fruits and vegetables.

And when the farmer turns to contract arrangements with shipper, processor or retailer, he is using another of the available tools for coping with the forces of the market place. (18)

Few of the 91,000 foreign students in this country are working in economics or statistics. But this handful of scholars will be returning home with a knowledge vital to the job of moving agriculture from the shadow of ignorance.

ECONOMICS AND THE INTERNATIONAL SHUTTLE



FOREIGN OBSERVERS: Sharing our food supplies is one form of U.S. foreign aid; sharing our knowledge is another. Some 3,000 to 4,000 visitors come to this country each year under the International Participant Training Program in Agriculture to study our agricultural technology. Some come for

full academic programs of study, others are here for only a few days of consultation with experts in their fields. The travelers are concerned with all aspects of agriculture and its related disciplines. About 10 per cent are primarily interested in economics and statistics.

Type of economic, statistical training	Number of participants from:					
	Europe	Latin America	Africa	Near East	Far East	Total
Academic	6	18	11	17	18	70
Nonacademic	10	4	7	4	5	30
Miscellaneous	78	43	49	27	32	229
Total	94	65	67	48	55	329

How would you like to run a farm program without knowing how many acres you had to work with? Or what yields were likely to be?

You wouldn't, of course.

And no farmer or processor or legislator in this country, with its wealth of statistical and economic information, has to work in ignorance of current conditions or probable trends for the future.

It's a far different story in much of the rest of the world, where factual information may be spotty at best; economic plan-

ning may result more from guesswork than adequate analysis.

The United States is helping to fill this information gap by bringing foreign students and specialists to this country for further training.

The International Participant Training Program in Agriculture—the formal name for such work—is a joint effort of the U.S. Department of Agriculture, the Land-Grant Colleges and the Agency for International Development.

About 10 per cent of a year's 3,000 to 4,000 foreign visitors to

USDA under this program study agricultural economics. Most of the study tours in this country are relatively short. About a fourth, however, stay for a year or more of college study.

The largest number of visitors come for a variety of other types of study or consultation. Some come in groups for a month or so to observe our methods. Others come over individually to study special problems, consult for a day or two with their scientific colleagues.

Their interests range from

overall problems of agricultural policy, price support programs and public administration to the working details of agricultural credit, research methodology and the uses of statistics.

Not all the traffic in knowledge flows from American scholarship, of course. A total of 91,000 foreign students and scholars came to the United States in 1964/65, including those who came to study agriculture. In the same year, 22,000 Americans were studying abroad, generally supported from private sources.

The type of visitor from abroad has changed noticeably since the beginning of the program after the war. Originally, most of the participants had worked long in their field. Today, few have any graduate study behind them, almost none of the college students have any work experience.

Their home countries are changing, too. Right after the war, most of the participants came from Europe. Today, the foreign visitor is increasingly apt to be from Latin America or Africa. (20)

EEC-Wide Fund Gains More Financial Control Over Common Farm Policy

The European Economic Community (EEC) took a giant step forward in May when it finally resolved the critical—and highly controversial—issue of farm financing.

Under the May agreement, the European Agricultural Guidance and Guarantee Fund (EAGGF) will take over on July 1, 1967 the full cost of all internal market or export subsidies on farm products for which there are community-wide price or market regulations. The EAGGF will also bear part of the cost of joint projects to modernize the EEC's agricultural production or marketing facilities.

The Fund will have an annual budget of \$1.6 billion, half of which will come from EEC levies on farm imports from nonmember countries and the rest from each country's national treasury.

France will put up 32 per cent of the total national contributions; West Germany, 31.2 per

cent; Italy, 20.3 per cent; the Netherlands, 8.2 per cent; Belgium, 8.1 per cent; and Luxembourg, 0.2 per cent.

France and the Netherlands, as the EEC's top agricultural exporters, will reap the biggest benefits from the Fund as it is now set up. Both stand to get a sizable share of the EAGGF's export subsidy funds.

West Germany, as the Community's top food importer, will make the greatest financial sacrifice. After July 1, 1967, 90 per cent of the levies on farm imports from nonmember countries will accrue directly to the EAGGF instead of to the national treasuries. Consequently, Germany will lose a good part of its receipts from import levies.

But the Germans, in return for agreeing to the farm financing scheme, succeeded in moving up the target date for the free market in industrial goods—from which they will benefit most. The last internal barriers to free trade in industrial and farm products within the EEC are slated to come down on July 1, 1968. (21)

Foreign Spotlight

SPAIN. With imports surging upward, exports in a slump, Spanish officials are concerned about the possible size of the country's balance of payments deficit in 1966. It could rise as high as \$400 million—more than twice the size of last year's deficit—if present trends continue. To stem the loss of foreign exchange, the government has started curtailing imports. However, farm imports likely will continue at a high level as officials attempt to arrest food price increases.

Last year Spain's agricultural imports reached a record \$591 million during the first 10 months, an increase of 45 per cent over the same period in 1964. U.S. farm sales benefitted greatly from the rapid gain. At \$157 million, our exports in 1965 were up nearly 70 per cent

from 1964. Spain ranked as our eighth largest dollar market for farm products during 1965.

INDIA. Government estimates this April placed total output of food grains in 1965/66 at 74.5 million metric tons, some 1.3 million tons below the government's forecast last December and well below the 1964/65 harvest of 88.4 million tons. Though late winter rains, especially in the northern states, helped bolster India's wheat crop, the rice crop is proving smaller than previously estimated.

Wheat output this April was placed at 11.5 million tons, up 1 million tons from the December forecast and only 600,000 tons below the 1964/65 harvest. But revised estimates of India's rice crop put it at only 30.6 million metric tons, one-fifth smaller than the 1964/65 record harvest of 38.7 million tons. (22)

OPTIMAL FARM ORGANIZATIONS FOR IRRIGATED FARMS IN SOUTH CENTRAL NEBRASKA. M. D. Skold and A. W. Epp, Nebraska Agricultural Experiment Station, Lincoln. Nebr. Agr. Expt. Sta. Res. Bul. 222.

In this report, six types of farms are defined, depending on the amount of irrigated land and farm size. Highest-profit farm organization methods are computed for nine sets of product prices.

The most profitable organization on any class of farm is conditioned by price assumptions. The relative amounts of beef and pork produced are influenced by their relative prices as well as by the level of the prices.

JORDAN'S AGRICULTURAL ECONOMY IN BRIEF. H. H. Tegeler, Foreign Regional Analysis Division. ERS-For. 146.

Agriculture engages about four-fifths of Jordan's people, but contributes only about one-third of the national income.

This report traces economic and agricultural development and outlines obstacles and possible solutions for the West Asian nation. (See April 1966 Farm Index.)

LIBYA'S AGRICULTURAL ECONOMY IN BRIEF. C. Santmyer, Foreign Regional Analysis Division. ERS-For. 147.

Ninety-five per cent of Libya is desert. Only a small strip of land along the Mediterranean is presently regarded as agricultural land. Most of the nation's cultivated acreage is in the region of Tripolitania, where about 260,000 irrigated acres are planted in cereals, vegetables, peanuts, grapes, olives, figs, dates, almonds and citrus fruits.

This report traces the possibilities of agricultural growth and of trade based on Libya's top export product, oil. (See April 1966 Farm Index.)

REGIONAL LOCATION OF PRODUCTION OF MAJOR FIELD CROPS



recent publications

The publications listed here are issued by the Economic Research Service and cooperatively by the state universities and colleges. Unless otherwise noted, reports listed here and under Sources are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective states.

AT ALTERNATIVE DEMAND AND PRICE LEVELS, 1975: A LINEAR PROGRAMMING ANALYSIS. M. D. Skold and E. O. Heady, Iowa Agricultural Experiment Station, Ames. Iowa Agri. Expt. Sta. Tech. Bul. 1354.

Objective of the analysis in this report is to determine the 1975 location of production of wheat, corn, oats, barley, grain sorghum, soybeans and cotton that would result in maximum profits to farmers under various conditions.

AGRICULTURAL EXPORTS FROM TEMPERATE AND TROPICAL ZONES: CHANGES IN PRICES AND FOREIGN EXCHANGE EARNINGS, 1947-63. O. H. Goolsby, Foreign Development and Trade Division. FAER-29.

Prices of agricultural exports of the Free World have tended to decline and foreign exchange earnings have risen since World War II.

This report traces price and exchange fluctuations during a 17-year period, especially between 1947-54 and 1954-63.

COSTS AND RETURNS ON COMMERCIAL FARMS: LONG-TERM STUDY, 1954-63. W. D. Goodsell and I. Jenkins, Farm Production Economics Division. Stat. Bul. 368.

This report gives summary estimates of costs and returns and related data for 42 important types and sizes of commercial farms in 24 major farming areas of the United States.

A major objective of this publication is to bring under one cover comparable estimates for each series of farming situations from 1954 through 1963.

ECONOMICS OF SKIP-ROW COTTON PRODUCTION. W. W. Pawson and A. G. Nelson, Arizona Agricultural Experiment Station, Tucson. Ariz. Agr. Expt. Sta. Rpt. 231.

The purpose of this report is to provide some guides to aid individual farmers in Arizona in reaching a decision on whether or not to grow skip-row cotton in 1966 and succeeding years.

Data concerning yields, costs and returns per "acre" for skip-row cotton are for a planted acre of cotton—the land that is actually in cotton exclusive of the skipped rows—according to customary interpretations.

CITRUS PRICES AND MARKET STRUCTURE IN THE LOWER RIO GRANDE VALLEY OF TEXAS. J. C. Podany, R. O. P. Parrish and R. W. Bohall, Marketing Economics Division. MRR-748.

In the Lower Rio Grande Valley, citrus harvest starts in late September and lasts into June.

This report examines market structure and prices in the area's fresh citrus market. (See May 1966 Farm Index.)

THE PLACE OF COW-CALF ENTERPRISES IN FARMING SYSTEMS IN THE YAZOO-MISSISSIPPI DELTA. A. M. Heagler, F. T. Cooke, Jr. and T. E. Tramel, Mississippi Agricultural Experiment Station, State College. Miss. Agr. Expt. Sta. Bul. 719.

Cotton is the major crop of this intensive-farming area of four million acres. Interest in beef cattle as an alternative enterprise began when cotton acreage controls reduced cotton plantings and several alternative row crops had little success.

This report is part of a three-phase study begun in 1955 to get a general description of beef cattle enterprises as they were found on Delta farms, detailed pasture input-output data for the most common crops produced in the area and an evaluation of the beef cattle business to see how it might fit into existing cropping patterns through more use of under-used resources or byproducts of the cropping system.

COSTS AND RETURNS FOR LARGE WISCONSIN DAIRY HERDS. N. D. Kimball, Wisconsin Agricultural Experiment Station, Madison. Wisc. Agr. Expt. Sta. Bul. 579.

Costs and returns for large, specialized dairy farms are studied from two viewpoints: (1) a comparison of farms with dairy herds of above and below the group's average production and (2) an analysis of changes in costs and returns as herd size varies

from 40 to 110 cows and level of production varies from 9,000 to 14,000 pounds of milk per cow.

CROP ENTERPRISE COSTS FOR SOUTHEASTERN COLORADO. H. G. Sitler, Colorado Agricultural Experiment Station, Fort Collins. Colo. Agr. Expt. Sta. Unnumb.

What crop returns the greatest profit in southeastern Colorado? Can a farmer in that area increase his profits by changing his crop rotation?

Information in this report's tables will give him answers to these and other crop enterprise questions.

INCOME VARIABILITY OF ALTERNATIVE PLANS, SELECTED FARM AND RANCH SITUATIONS, ROLLING PLAINS OF NORTHWEST OKLAHOMA. W. G. Aanderud, James S. Plaxico and W. F. Lagrone, Oklahoma Agricultural Experiment Station, Stillwater. Okla. Agr. Expt. Sta. Bul. B-646.

The primary purposes of this study were to estimate the income differences between various enterprise combinations and to see the probable effect on income for farmers making use of the various plans.

SELECTED STATISTICAL SERIES FOR POULTRY AND EGGS THROUGH 1965, A SUPPLEMENT TO THE "POULTRY AND EGG SITUATION." Commodity Analysis Branch, Economic and Statistical Analysis Division, ERS-232.

Figures in this supplement augment and replace many of the historical series previously carried in the situation report.

COSTS OF STORING AND HANDLING GRAIN IN COMMERCIAL ELEVATORS, 1964-65. W. A. Faught, Marketing Economics Division. ERS-288.

The results of this report were based on accounting records of 252 elevators selected to represent the principal storage areas, types and kinds of construction. The sample included 165 country elevators, 58 inland terminal elevators and 29 port facilities.

THE FRENCH AND NON-FRENCH IN RURAL LOUISIANA. A. L. Bertrand, Louisiana Agricultural Experiment Station, Baton Rouge and C. L. Beale, Economic Development Division. La. Agr. Expt. Sta. Bul. 606.

Probably no other non-English group in the United States has been more persistent in the preservation of its culture and language than the French in Louisiana.

This study provides information which would assist program planners and community leaders of the area in education and development. Its collected data may also have suggestive value for study projects in other states where sizable population groups have maintained a degree of cultural and linguistic identity. (see page 15.)

Numbers in parentheses at end of stories refer to sources listed below:

1. V. W. Davis, The Changing Structure of American Agriculture (M) and M. L. Upchurch (SM); 2. D. E. McKee, The Changing Structure of American Agriculture (S); 3. J. R. Donald (SM); 5. E. E. Gavett, Technological Trends in Agriculture—1965; Fruits, Vegetables and Sugar Crops (S); 6. F. Lowenstein, What the New Cotton Law Will Do (S); 7. Farm Production Economics Division (SM); 8. L. D. Bender and M. F. Jordan, An Economic Survey of the Ozark Region (M); 9. R. Bird, Water, Its Recreational Use as an Economic Factor in Regional Development (S*); 10. B. L. Green and H. A. Wadsworth, Recreation—An Alternative Use of Rural Resources: Factors Affecting Participation in Camping, Purdue Univ. Agr. Expt. Sta. (M*); 11. I. Hanson, Evaluating Enabling Laws for Special Districts—A Case Study in Oklahoma (M); 12. J. D. Cowhig and C. L. Beale, Vocational Agriculture Enrollment and Farm Employment Opportunities (S); 13. A. L. Bertrand and C. L. Beale,

The French and Non-French in Rural Louisiana, La. Agr. Expt. Sta. Bul. 606 (P*); 14. W. G. Heid, Jr., The Changing Market Structure for Wheat in the United States and the Pacific Northwest (S); 15. Wool Situation, TWS-75 (P); 16. W. Miklius (SM); 17. Marketing and Transportation Situation, MTS-161 (P); 18. L. A. Powell, Sr., Ways of Modifying Grower Returns for Horticultural Crops (S); 19. J. V. Powell (SM); 20. P. L. Hansen (SM); 21. B. L. Berntson and R. E. Friend (SM); 22. Foreign Regional Analysis Division (SM); 23. L. R. Brown, Population, Food and the Future of Man (S); 24. W. G. Heid, Jr., Market Structure and Performance as Related to Distribution Problems in the Baking Industry (S).

Speech (S); published report (P); unpublished manuscript (M); special material (SM); *State publications may be obtained only by writing to the experiment station or university cited.

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World Breadbasket

A generation ago, North America was only one of six grain exporting regions. Today, however, the United States and Canada are far and away the world's top exporters—with shipments this year expected to total 60 million metric tons. Roughly three-fourths of this grain will come from the United States, one-fourth from Canada.

But even more impressive than the 60-million-ton export level is the fact that North America could export 100 million tons of grain if the demand existed.

Here's the story behind our rapid emergence as the world's biggest breadbasket:

In the late 1930s Latin America was the world's top food surplus region, exporting about 9 million tons of grain annually. North America exported five million tons per year, exactly the same as Eastern Europe (including the Soviet Union). Asia, Africa and Oceania were also net food exporters.

But in the ensuing years, Latin America has been plagued with a runaway population growth rate which today is causing the region to struggle to remain self-sufficient in grains. Eastern Europe's 5-million-ton export surplus has vanished, too. This year the region likely will be importing some 14 million tons of grain. Both Asia and Africa are now major buyers instead of sellers.

Only Oceania remains a consistent food exporter alongside us and Canada. From 3 million tons prewar, Oceania has upped its exports to an expected 8 million tons this year. (23)

THE FARM INDEX

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Numbers in parentheses at end of stories refer to sources listed at end of issue.

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